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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JEFFREY D. WASHINGTON, MIKE SANTORI,  
and BOB YOUNG

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Appeal 2008-2565  
Application 09/886,239  
Technology Center 2100

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Decided:<sup>1</sup> March 20, 2009

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Before HOWARD B. BLANKENSHIP, JEAN R. HOMERE, and  
STEPHEN C. SIU, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

### STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 2, 5-7, 9, 10, 13-15, and 17-19. Claims 20-24 have been withdrawn from consideration. The Examiner indicated claims 3, 4, 11 and 12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm the Examiner's rejections against claims 1, 2, 5-7, 9, 10, 13-15, and 17-19.

### *Invention*

Appellants' invention relates to a method and memory medium for creating a graphical program that performs a numerical function. A node in a graphical program is displayed in response to user input, where the node is operable to perform a first numerical function (Spec. 6:16-19; 49:3-6; Figs. 27, 30, and 32). The node is configured to receive data values, in response to user input (Spec. 6:20-23; Figs. 30 and 32). The node is configured with criteria information in response to user input, where the criteria information indicates that the first numerical function is to be performed on a subset, but not all, of the data values received by the node (Spec. 6:26-29; 47:20-22; 47:26 to 48:12; Fig. 28). The graphical program is executed, and during execution of the graphical program, the node receives a plurality of data values and maintains state information regarding the received data values (Spec. 6:8-10; 7:5-16; 50:4-22). The node determines a first data collection on which to perform the first numerical function based on the criteria

information and the state information, and then performs the first numerical function on the first data collection (Spec. 6:1 to 7:16; 50:4-22; Figs. 30-33).

*Representative Claim*

1. A computer-implemented method for creating a graphical program that performs a numerical function, the method comprising:

displaying a node in a graphical program in response to user input, wherein the node is operable to perform a first numerical function;

configuring the node to receive data values, in response to user input;

configuring the node with criteria information in response to user input, wherein the criteria information indicates that the first numerical function is to be performed on a subset, but not all, of the data values received by the node;

executing the graphical program;

the node receiving a plurality of data values during execution of the graphical program, wherein the node maintains state information regarding the received data values;

the node determining a first data collection on which to perform the first numerical function based on the criteria information and the state information, wherein the first data collection comprises a subset, but not all, of the plurality of data values received; and

the node performing the first numerical function on the first data collection.

*Prior Art*

The Examiner relies on the following references as evidence of unpatentability.

Gutttag	4,933,878	Jun. 12, 1990
Rogers	5,497,500	Mar. 5, 1996
Roach	6,343,292 B1	Jan. 29, 2002

*Examiner's Rejections*

Claims 1, 2, 5, 6, 9, 10, 13, 14, and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roach and Gutttag.

Claims 7, 15, 18, and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roach, Gutttag, and Rogers.

*Claim Groupings*

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal on the basis of claims 1, 2, 7, 18, and 19. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUES

(1) Have Appellants shown that the combination of Roach and Gutttag fails to teach the inventions of claims 1, 2, and 17?

(2) Have Appellants shown that the combination of Roach, Gutttag and Rogers fails to teach the inventions of claims 7, 18, and 19?

## FINDINGS OF FACT

### *Appellants' Specification*

1. A node visually indicates a function performed by a graphical program (Spec. 23:8-11).

### *Roach*

2. Roach discloses a service independent building block (SIB), which is a software primitive that performs a function and is represented within the user interface as an icon. The SIB of Roach is a node that visually indicates a function performed by a graphical program. (See Fig. 2; col. 1, ll. 31-33; col. 3, l. 59 to col. 4, l. 6).

3. The SIB node is displayed in response to user input (col. 3, ll. 66-67).

4. For each SIB, a set of one or more data structures is created, and each data structure includes a number of data fields (col. 4, ll. 43-46).

5. One field describes a numerical function performed by the SIB (element 32 of Figs. 3-6; col. 5, ll. 32-34 and 42-52).

6. Several parameters are configured, in response to user input, to receive data values (col. 4, ll. 47-58; col. 5, ll. 42-65; Fig. 5 parameters P1, P2 and P3).

7. Fig. 5 shows data structure 55, which includes the criteria information P1=3 to indicate that the first numerical function of dividing P2 by P3 is performed on the subset of data values received by the node, where the subset is the data values of P2 and P3 received when P1 is three (col. 6, ll. 50-62; Fig. 5).

8. Figs. 4 and 5 show ranges regarding received data values, where the ranges are used to validate that parameter value data which the user assigns falls within a desired range of values (col. 5, ll. 34-39; Fig. 4; Fig. 5 elements 51 and 55).

9. The ranges provide information about the state of a received data value, such as valid or invalid (col. 4, ll. 65-66; col. 5, ll. 34-39; col. 8, l. 63 to col. 9, l. 10).

10. Fig. 5 shows data structure 55 which determines a first data collection of P2 and P3, based on the criteria information that  $P1=3$  and the state information that the value of parameter 3 is between 1 and 255, indicating a valid state (Fig. 5, elements 55, 31, 34, and 35; col. 6, ll. 50-62).

11. Fig. 5 shows data structure 55 which performs the numerical function of division on the first data collection of P2 and P3 when the criteria that  $P1=3$  is met (Fig. 5, elements 55, 32; col. 6, ll. 50-62).

12. Roach provides a graphical user interface that allows a user to assign parameter values for configuration information of the SIB node (Abstract; col. 1, ll. 27-38 and 62; col. 2, ll. 50-52; col. 3, l. 59 to col. 4, l. 6).

13. The configuration information includes criteria information that is assigned by a user (col. 4, ll. 53-58; col. 6, ll. 52-61).

14. For example, the user assigns the criteria information that specifies performing division when  $P1=3$  (col. 6, ll. 50-61).

15. Data fields of the user assigned parameters, corresponding functions and parameter constraints, and their text descriptions, are displayed adjacent to the corresponding SIB node (col. 7, ll. 49-64; col. 9, ll. 4-15; Fig. 9).

16. Roach shows that SIB icons are interconnected with line segments (Fig. 2; col. 1, ll. 40-50).

17. Roach shows, in Fig. 5, data structures for a SIB node to allow the single SIB node to perform several numerical functions, including addition, subtraction, multiplication, and division.

*Rogers*

18. Rogers discloses program execution elements, or nodes, that are interconnected with line segments called wires (Fig. 75; col. 41, ll. 40-41; col. 42, ll. 8-14).

19. Wires are data paths between terminals (col. 42, ll. 8-14).

20. Rogers discloses a compound node that is a combination of two function nodes, one that performs addition and one for subtraction (Fig. 75; col. 41, ll. 53-55).

21. Both function nodes of the compound node shown in Fig. 75 have wires that receive the same input values and both operate on the same data collection (Fig. 75; *see also* col. 41, l. 39 to col. 42, l. 7).

PRINCIPLES OF LAW

*Claim Interpretation*

During examination, claims are to be given their broadest reasonable interpretation consistent with the specification, and the language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369 (Fed. Cir. 2004) (citations omitted). The Office must apply the broadest reasonable meaning to the claim language, taking into account any



definitions presented in the specification. *Id.* (citing *In re Bass*, 314 F.3d 575, 577 (Fed. Cir. 2002)).

### *Obviousness*

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739 (2007).

### ANALYSIS

#### *I. Section 103 rejection of claims 1, 9 and 17.*

Appellants contend that Roach and Gutttag, taken either singly or in combination, do not teach criteria information that indicates the first numerical function is to be performed on a subset, but not all, of the data values received by the node (App. Br. 7; Reply Br. 3).

Roach configures the node to receive data values for P1, P2, and P3 (FF 7). Roach configures the node with criteria information to indicate that a first numerical function is performed on a subset of data values received by the node (P2 and P3) when the criteria of P1 is met (FF 7, 10-11). We therefore agree with the Examiner that the combination of Roach and Gutttag teaches “the criteria information indicates that the first numerical function is

to be performed on a subset, but not all, of the data values received by the node” as recited in claim 1.

Appellants contend that Roach does not teach state information (App. Br. 7). However, Roach shows a desired range of received data values for a parameter, where the range validates the data value if the data value falls within the desired range. Therefore, the range of data values provides information about the state of the received data value, such as valid or invalid (FF 8-9). In fact, Appellants admit that “Roach teaches . . . the numerical ranges are simply used to validate that the values of the two parameters fall within a certain range of values” (App. Br. 7). Appellants’ use of the term “state information” in claim 1 is broad enough to include valid and invalid states of received data values as taught by Roach, and Appellants have provided no evidence to the contrary.

Appellants contend that Roach and Gutttag do not teach “the node determining a first data collection on which to perform the first numerical function based on the criteria information and the state information” as recited in claim 1 (App. Br. 7-8).

Roach teaches determining a first data collection of P2 and P3, based on the criteria information that the value of P1 is 3 and the state information that the value of P3 is valid between 1 and 255 (FF 10). Roach teaches performing the numerical function of division on this first data collection (FF 11). We therefore agree with the Examiner that the combination of Roach and Gutttag teaches “the node determining a first data collection on which to perform the first numerical function based on the criteria information and the state information” as recited in claim 1.

Appellants contend that Gutttag is not in the field of Appellants' endeavor and not reasonably pertinent to the claimed subject matter; therefore, not available as a reference in a section 103 rejection (App. Br. 6; Reply Br. 2-3). Because Roach, taken alone, teaches all the elements of claim 1 that are alleged to be missing in the combination, we do not reach and need not address the allegation that Gutttag is not analogous art.

For the rejection of claim 17, Appellants rely on the argument as "discussed above with respect to claim 1" (App. Br. 10). The statement "as discussed above with respect to claim 1" is not an argument for separate patentability of claim 17 and does not show that the applied prior art fails to teach the invention of claim 17. Therefore, the rejection of claim 17 is also sustained.

## *II. Section 103 rejection of claims 2 and 10.*

Appellants contend that Roach teaches nothing at all in the cited passage about receiving user input requesting to specify configuration information for a particular node and then displaying a GUI in response to the request (App. Br. 9). Roach teaches a graphical user interface (GUI) that allows a user to specify configuration information of the SIB node (FF 12). The configuration information includes criteria information that is input by a user via the GUI (FF 13-15). We therefore agree with the Examiner that the combination of Roach and Gutttag teaches the invention of claim 2.

*III. Section 103 rejection of claims 7 and 15.*

Appellants contend that the Examiner has not shown that the prior art contains a clear and particular teaching or suggestion for combining Rogers and Roach (App. Br. 11). Roach shows that SIB icons, or nodes, are interconnected with line segments (FF 16). The word “wire” recited in claims 7 and 15 is broad enough to cover the line segments disclosed by Roach. The Examiner found that the wire in Roach connects the input terminal of a node with an output terminal of another node (Ans. 5-6). The Examiner also found that although Roach does not explicitly state that the input terminal of the node receives data values from the wire, Rogers teaches that using a wire to transfer data from one node to another would have been obvious to a person of ordinary skill in the art at the time of the invention (Ans. 6). We agree that Rogers does teach this (FF 18-19).

The teaching of Rogers simply makes explicit what is already implicitly shown in Roach. The Examiner’s finding that the wires disclosed by Roach transfer data between nodes as taught by Rogers appears to be an accurate description of how Roach transfers data between nodes. Appellants have failed to provide any evidence to the contrary. We therefore agree with the Examiner that the combination of Roach and Gutttag teaches the invention of claim 7.

*IV. Section 103 rejection of claim 18.*

Appellants contend that Roach and Rogers, taken either singly or in combination, do not teach the limitations recited in claim 18 (App. Br. 11-12; Reply Br. 3). However, Roach by itself shows, in Fig. 5, data structures

for a SIB node to allow the single SIB node to perform several numerical functions, including addition, subtraction, multiplication, and division (FF 17). A person of ordinary skill in the art, after seeing the several numerical functions performed by a single node as taught by Roach, would have been able to apply the several numerical functions on a first data collection to produce the predictable result of a “node performing the second numerical function on the first data collection, in addition to performing the first numerical function on the first data collection” as recited in claim 18.

Appellants contend that Fig. 75 of Rogers shows two nodes, one that performs addition and another that performs subtraction (App. Br. 11-12). However, this contention fails to address the Examiner’s finding that the two function nodes shown in Fig. 75 form a single compound node that performs the numerical functions of addition and subtraction on the same data collection. Both function nodes have wires that receive the same input values and both perform their numerical functions on the same data collection (FF 20-21). Therefore, we agree with the Examiner that Fig. 75 of Rogers shows a single compound node that performs two numerical functions on the same data collection.

The Examiner also found that a person of ordinary skill in the art at the time of invention, after seeing two numerical functions performed on the same data collection as disclosed by Rogers, would have been able to modify Roach to perform two, instead of only one, numerical functions on the same data collection. Appellants have failed to address this finding by the Examiner.

Modifying the node disclosed by Roach to perform two numerical functions on the same data collection as taught by Rogers appears to represent the combination of familiar elements according to known methods, and Appellants have provided no evidence to the contrary. We are not persuaded that modifying the node of Roach to perform two numerical functions such as addition and subtraction on the same data collection as taught by Rogers was “uniquely challenging or difficult for one of ordinary skill in the art” (*see Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 127 S. Ct. at 1741)).

*V. Section 103 rejection of claim 19.*

Appellants contend that Fig. 75 of Rogers shows two nodes (App. Br. 12). However, this contention fails to address the Examiner’s finding that the two nodes, which both receive the same input values, are a compound node, as discussed in the analysis of claim 18 above. This contention also fails to provide any evidence that shows that modifying the node of Roach to perform two numerical functions on the same data collection as taught by Rogers was uniquely challenging or difficult for one of ordinary skill in the art.

CONCLUSIONS OF LAW

- (1) Appellants have not shown that the combination of Roach and Gutttag fails to teach the inventions of claims 1, 2, and 17.
- (2) Appellants have not shown that the combination of Roach, Gutttag and Rogers fails to teach the inventions of claims 7, 18, and 19.

DECISION

We affirm the Examiner's rejections of claims 1, 2, 5-7, 9, 10, 13-15, and 17-19 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

msc

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